

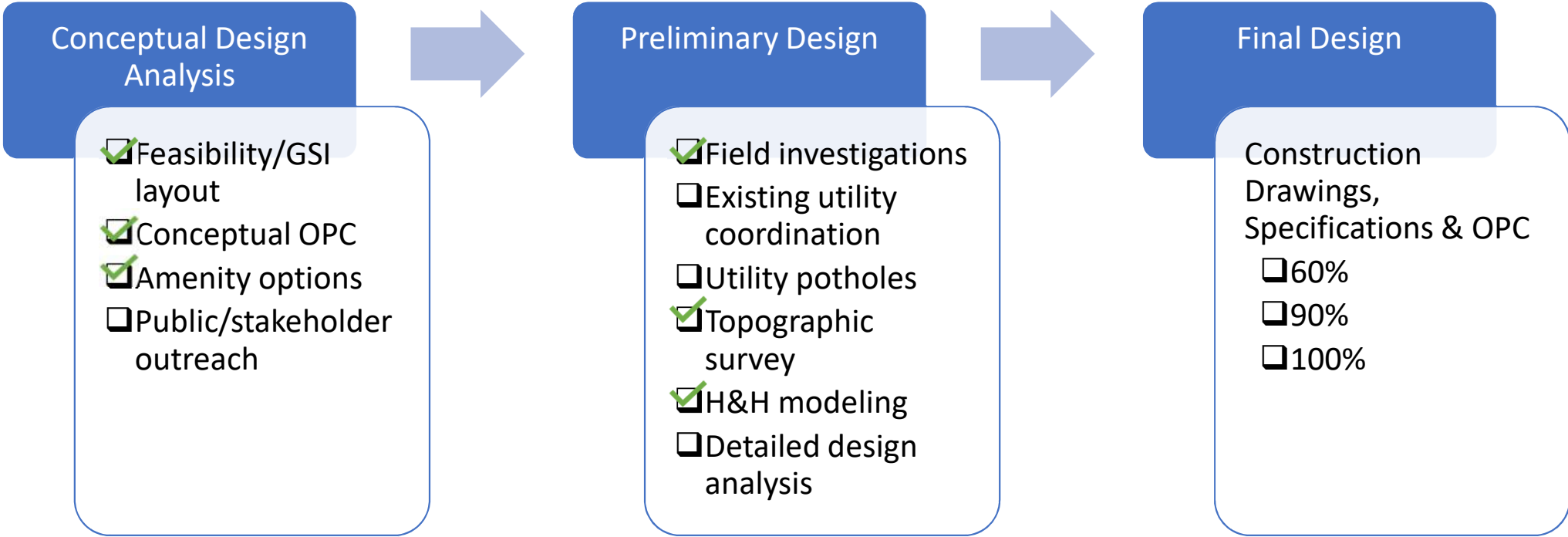
Eighth Street Park

Concept Design

October 25, 2019

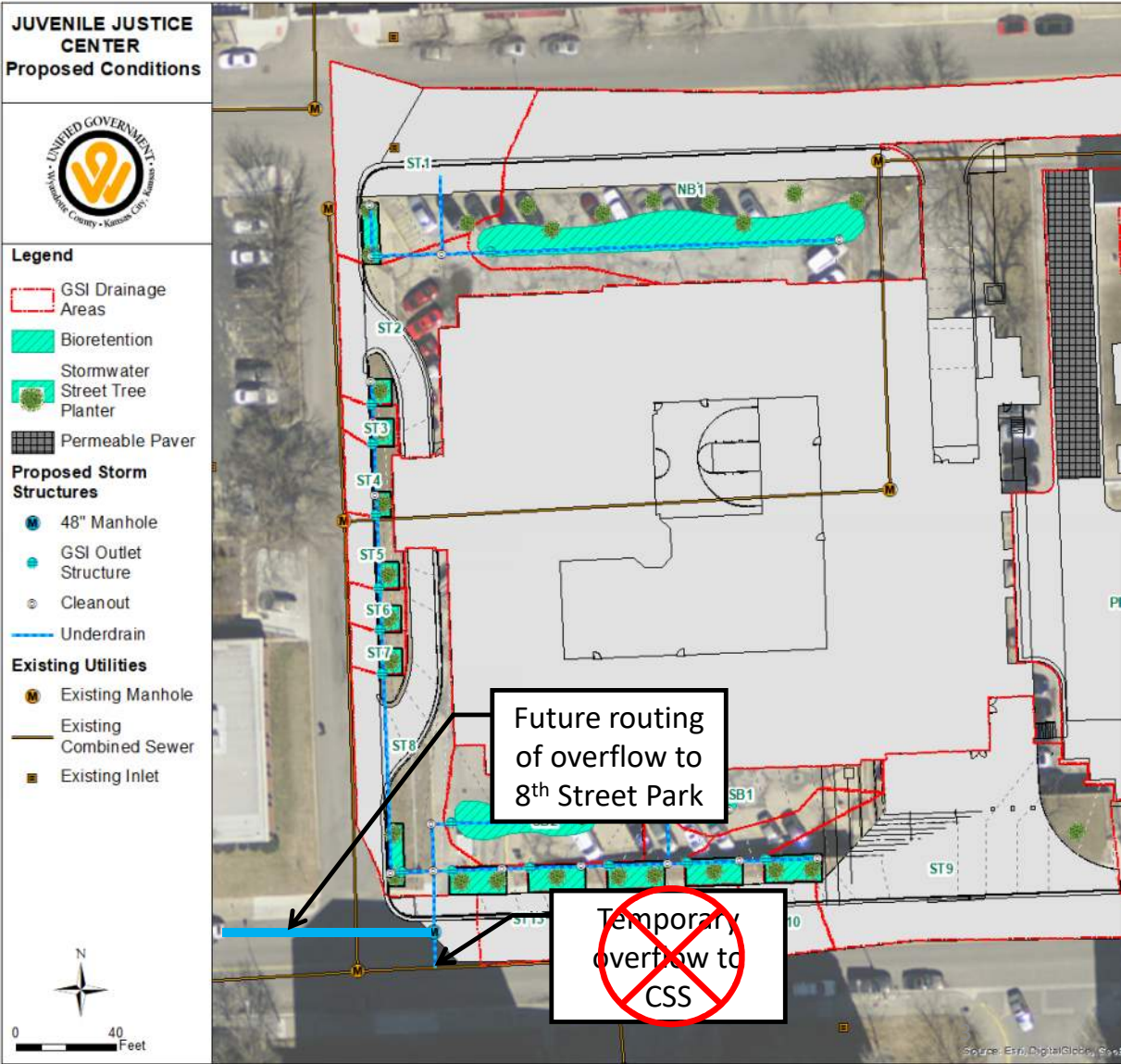
Task Series 900 – Eighth Street Park Green Stormwater Infrastructure

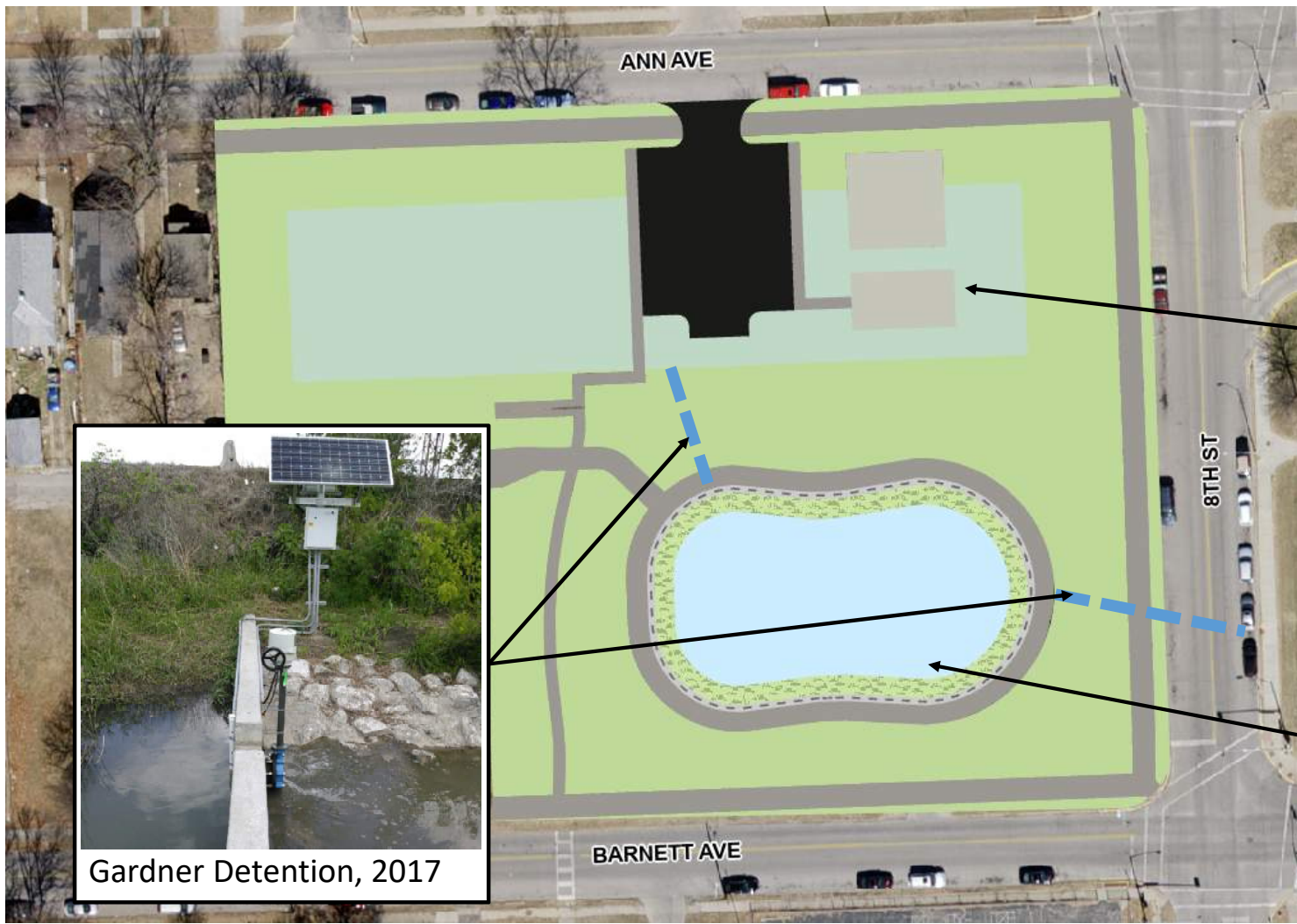
Task 900 Eight Street Park GSI – Status Update



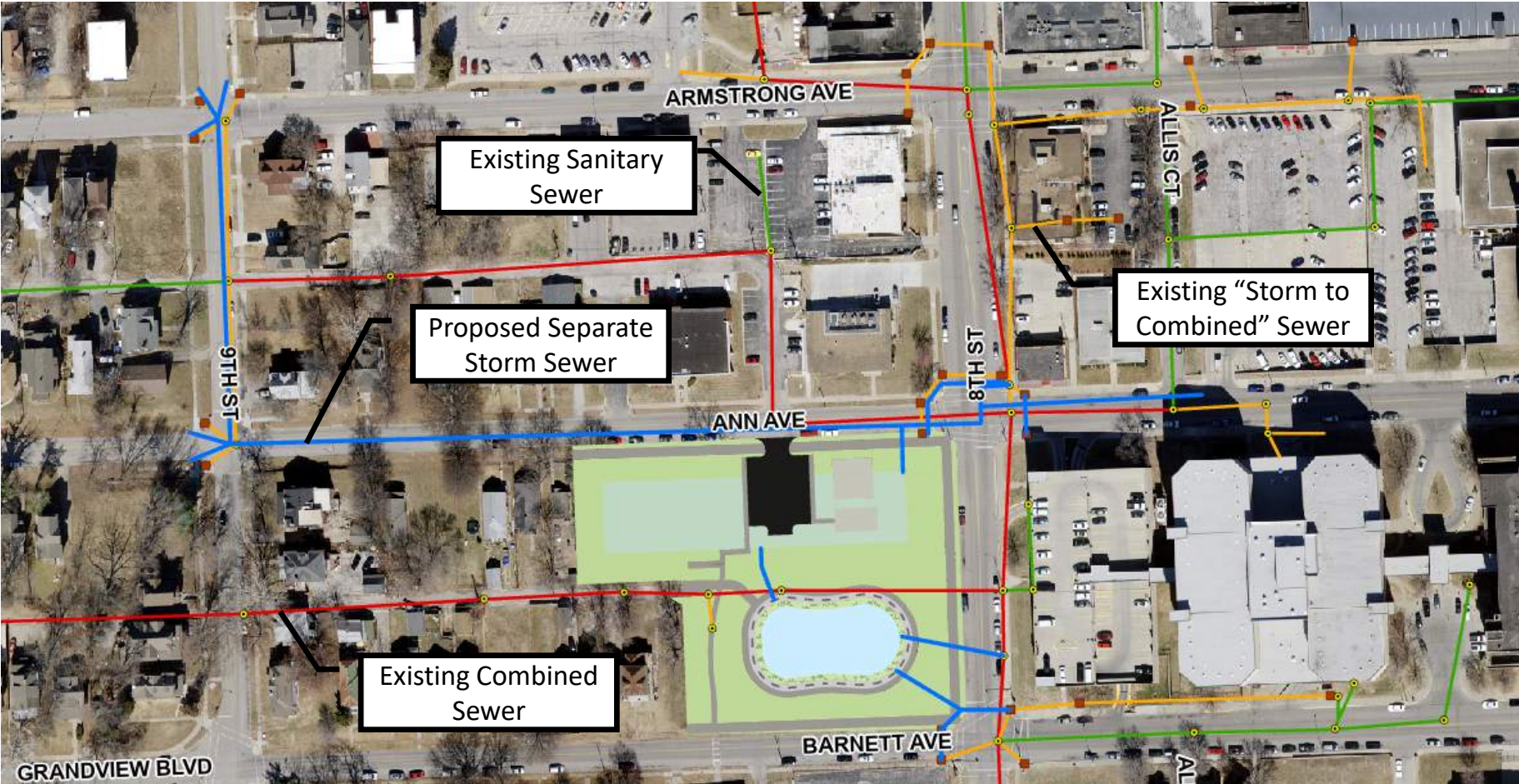
Background – Why Eighth Street Park?

- Splitlog Basin: 2nd largest annual overflow (180 MG)
- JJC Building original design: direct connection to CSS
- 8th Street Park opportunity for stormwater mitigation from building
- JJC Building GSI design



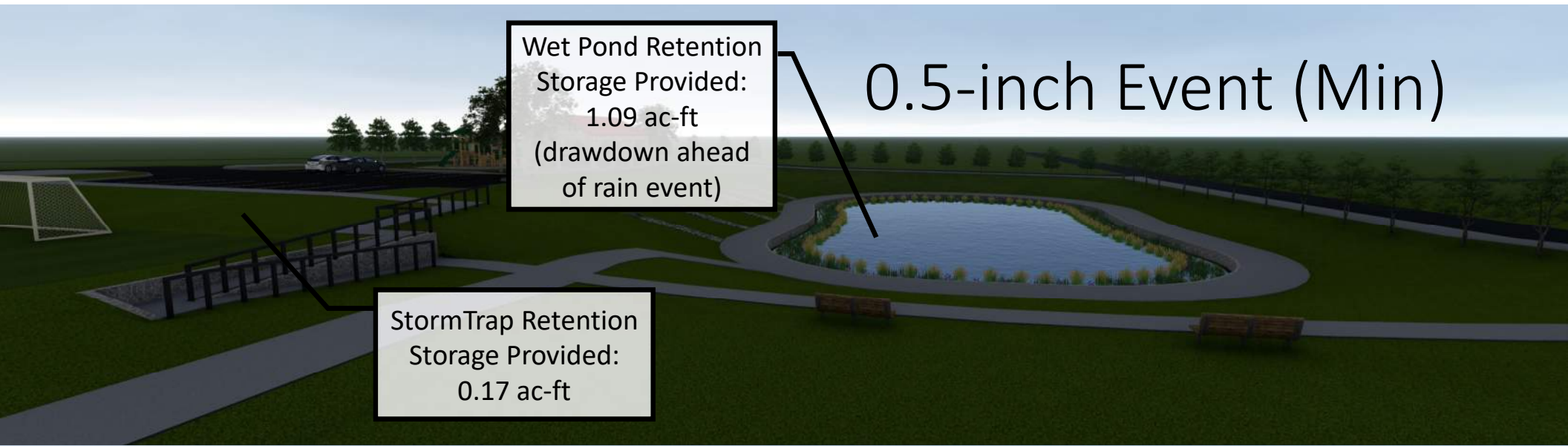


Sewer Separation



Eighth Street Park Concept Rendering

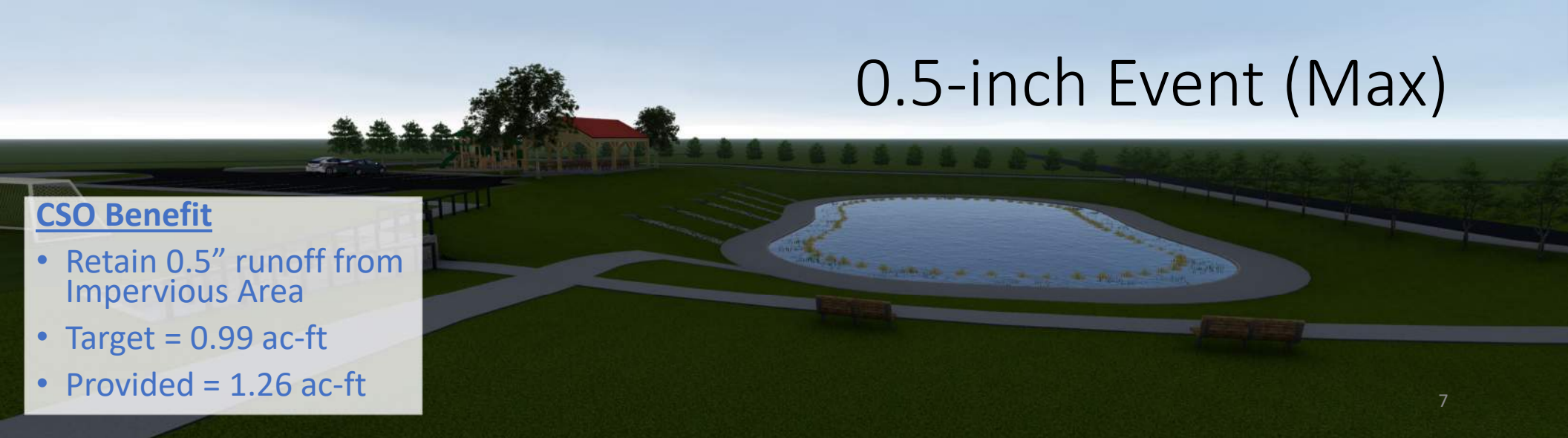




Wet Pond Retention
Storage Provided:
1.09 ac-ft
(drawdown ahead
of rain event)

0.5-inch Event (Min)

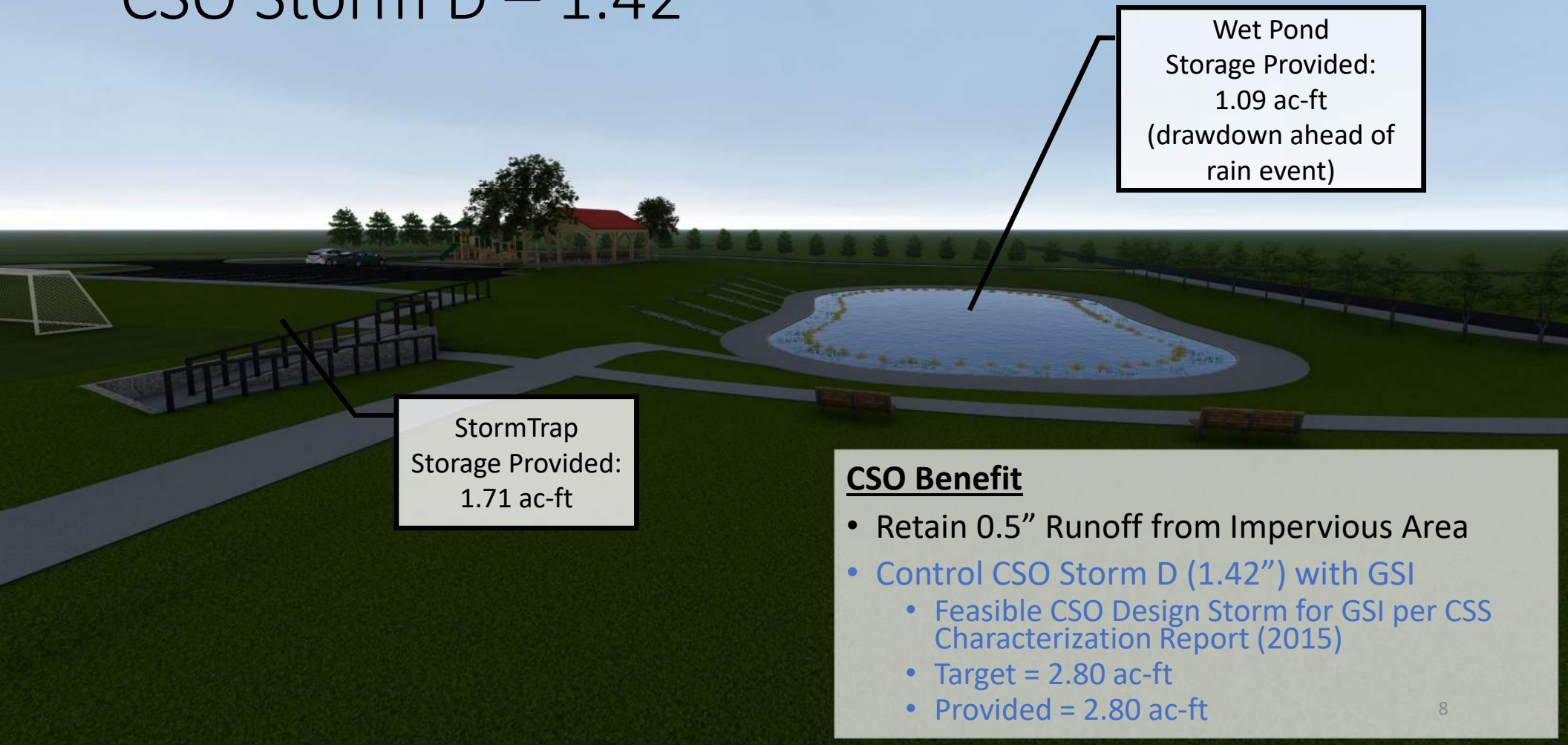
StormTrap Retention
Storage Provided:
0.17 ac-ft



CSO Benefit

- Retain 0.5" runoff from Impervious Area
- Target = 0.99 ac-ft
- Provided = 1.26 ac-ft

CSO Storm D – 1.42"



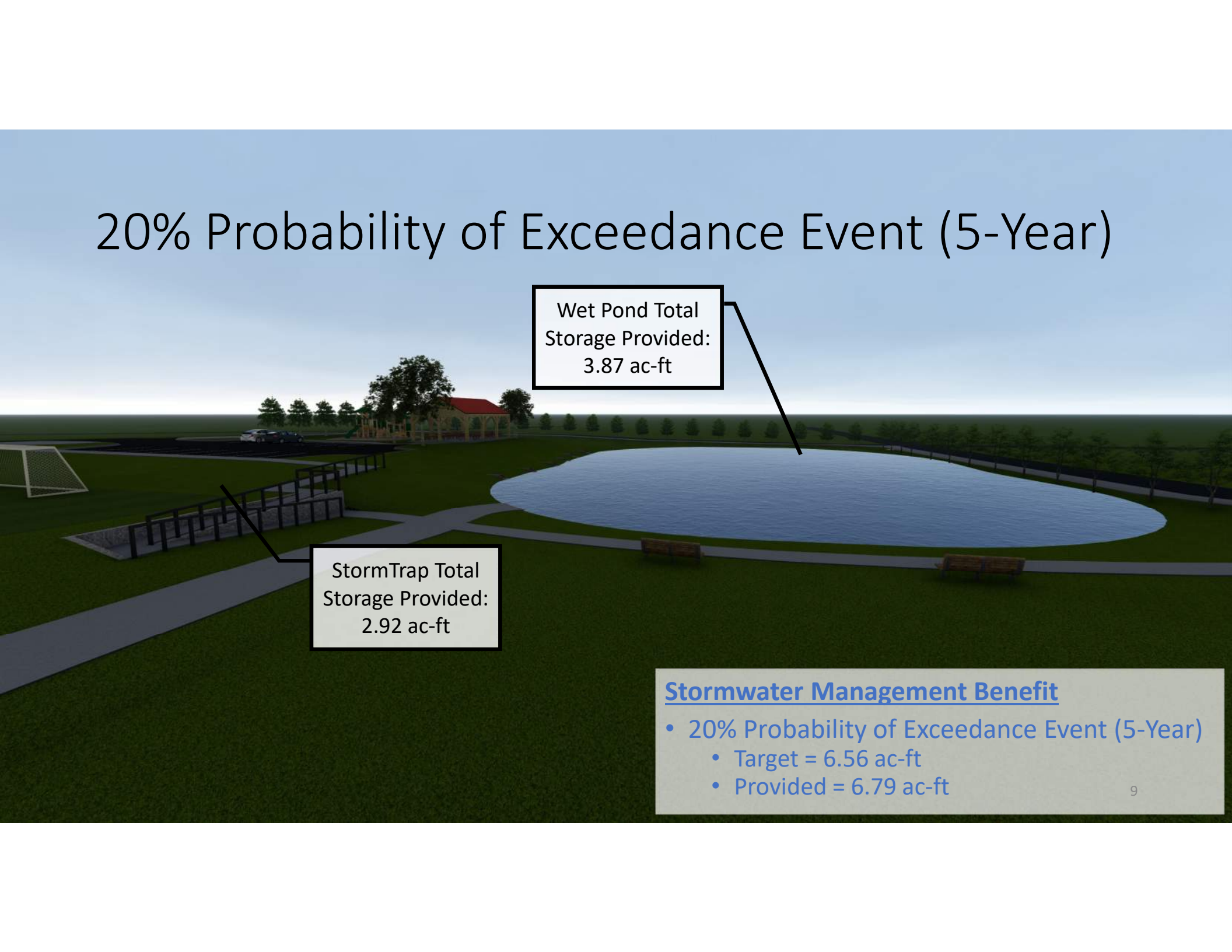
StormTrap
Storage Provided:
1.71 ac-ft

Wet Pond
Storage Provided:
1.09 ac-ft
(drawdown ahead of
rain event)

CSO Benefit

- Retain 0.5" Runoff from Impervious Area
- Control CSO Storm D (1.42") with GSI
 - Feasible CSO Design Storm for GSI per CSS Characterization Report (2015)
 - Target = 2.80 ac-ft
 - Provided = 2.80 ac-ft

20% Probability of Exceedance Event (5-Year)

A 3D architectural rendering of a park landscape. In the center is a large, irregularly shaped wet pond with blue water. To the left of the pond is a rectangular storm trap with a concrete wall and a metal grate. A paved path runs along the edge of the pond, with two wooden benches. In the background, there are green trees, a small building with a red roof, and a soccer field with a goal. The sky is a clear blue.


Wet Pond Total
Storage Provided:
3.87 ac-ft

StormTrap Total
Storage Provided:
2.92 ac-ft

Stormwater Management Benefit

- 20% Probability of Exceedance Event (5-Year)
 - Target = 6.56 ac-ft
 - Provided = 6.79 ac-ft

50% Probability of Exceedance Event (2-Year)

A 3D architectural rendering of a stormwater management facility. In the foreground, there is a large, irregularly shaped pond with blue water. To the left of the pond, there is a concrete structure with a black metal railing, identified as a StormTrap. In the background, there is a green lawn, a paved path, a bench, and a small building with a red roof. The sky is a clear blue.

Wet Pond Total
Storage Provided:
2.18 ac-ft

StormTrap Total
Storage Provided:
2.92 ac-ft

Stormwater Management Benefit

- 50% Probability of Exceedance Event (2-Year)
 - Target = 5.10 ac-ft
 - Provided = 5.10 ac-ft

Property Acquisition

- \$500,000
 - 1.5x Max Appraisal Value from LandsWeb website

Parcel	Owner
081357	Landbank
081384	816 Ann Property, LLC
081385	816 Ann Property, LLC
081386	Francisco Brea
081387	Mary Margaret Messina
081358	Genesis Property, LLC
081362	Marcys Eighth Street Apartments, LLC



Cost

PHASE	DESCRIPTION	COST	\$/Total gal	\$/CSO gal	\$/Acre	\$/Imp Acre
1	Heavy Site Civil (Storm Trap + Wet Pond)	\$2,580,000	\$1.17	\$2.83	\$71,647	\$97,950
2	Site Landscaping	\$300,000	\$0.14	\$0.33	\$8,331	\$11,390
3	Sewer Separation (Separate Storm + Opti)	\$1,690,000	\$0.76	\$1.85	\$46,931	\$64,161
SUBTOTAL (PHASE 1-3)		\$4,570,000	\$2.07	\$5.01	\$126,909	\$173,500
	Property Acquisition	\$500,000	\$0.23	\$0.55	\$13,885	\$18,983
4	Park Amenities	\$500,000	\$0.23	\$0.55	\$13,885	\$18,983
TOTAL (Rounded up to the nearest \$10k)		\$5,570,000	\$2.52	\$6.11	\$154,679	\$212,465

Note: \$/CSO gal was updated after 10/25/19 meeting to reflect CSO Storm D Storage Volume Provided (2.80 ac-ft), not Retention Volume Provided (1.26 ac-ft)

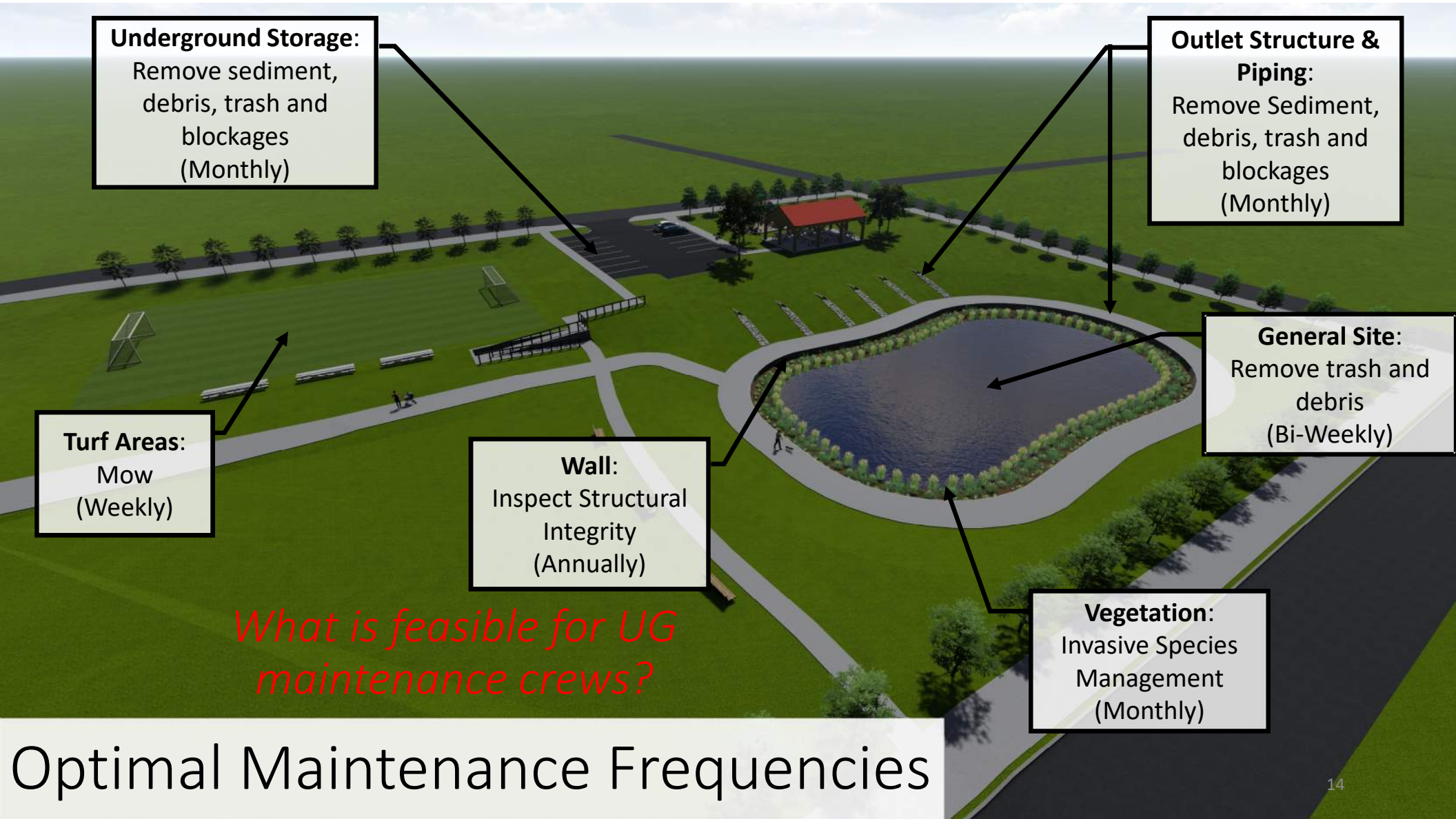
Comparison to Big Eleven Lake



Parameter	Eighth Street Park	Big Eleven Lake
Site Area	2.5 ac	6.5 ac
Perm. Pool Area	0.3 ac	3.8 ac
Drainage Area	36 ac	114 ac
Imperviousness	66%	51%

Eighth Street Park

Big Eleven Lake



Underground Storage:

Remove sediment,
debris, trash and
blockages
(Monthly)

Outlet Structure & Piping:

Remove Sediment,
debris, trash and
blockages
(Monthly)

Turf Areas:

Mow
(Weekly)

Wall:

Inspect Structural
Integrity
(Annually)

General Site:

Remove trash and
debris
(Bi-Weekly)

Vegetation:

Invasive Species
Management
(Monthly)

*What is feasible for UG
maintenance crews?*

Optimal Maintenance Frequencies

Alignment with UG Goals & Initiatives

Strategic Plan (2017 – 2022)	SOARs	Infrastructure Action Team
<ul style="list-style-type: none">• Improve satisfaction with public infrastructure appearance/ maintenance	<ul style="list-style-type: none">• Improve quality of life through appearance, communication and safety	<ul style="list-style-type: none">• Build, redesign, and better utilize Wyandotte County’s environmental infrastructure
<ul style="list-style-type: none">• Evaluate stream areas and vacant lots to identify and build places for trails, green spaces and beautification	<ul style="list-style-type: none">• Land Bank<ul style="list-style-type: none">• <i>‘effectively transition Land Bank policies and procedures to be an asset for revitalization.’</i>• One property in the project area is Land Bank owned.	<ul style="list-style-type: none">• Healthy Parks Initiative<ul style="list-style-type: none">• <i>‘make parks places of healthy activity through improvements to both infrastructure and programming’</i>
<ul style="list-style-type: none">• Enhance built environment to promote livability, choice, and access	<ul style="list-style-type: none">• Parks & Recreation<ul style="list-style-type: none">• <i>‘Improve the quality of parks and recreation facilities.’</i>	<ul style="list-style-type: none">• Healthy Communities Corridor<ul style="list-style-type: none">• <i>‘safe routes to parks’</i>• Centered on 10th/12th St
<ul style="list-style-type: none">• Support development with infrastructure improvements	UG: Logan Masenthin	<ul style="list-style-type: none">• UG: Janell Friesen

Urban Planning & Land Use

- Downtown Master Plan:
 - Open spaces connected via public sidewalks and trails for maximized access and convenience
 - Use design principles that create safe places
 - Heritage Trail to be extended at south boundary of park (Barnett Ave)
 - Larger sidewalk with added landscape, art, and informational signage
- City-Wide Master Plan:
 - Revitalize existing neighborhood parks east of I-635
 - Develop connections between the neighborhood and community/regional park system
 - Parks and open space can serve to mitigate storm water run-off

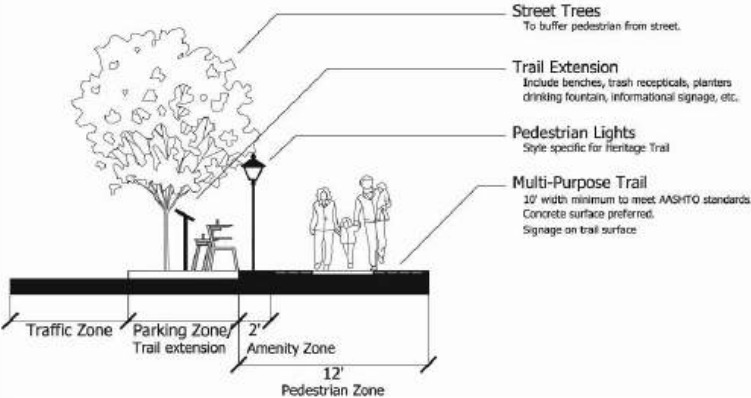
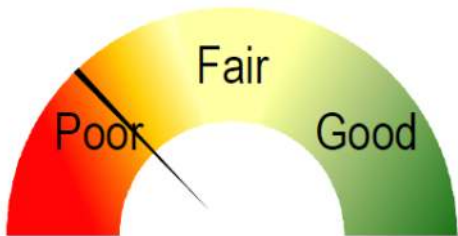


Figure I-13: Trail Section – On-street
Source: Gould Evans Associates

2017 Parks Master Plan: Eighth Street Park

LEVEL OF SERVICE:

Eighth St. Park has a POOR level of service value as the result of lacking park qualities of accessibility, usability, and deteriorating condition of amenities.



Community Voice & Partner Suggestions:

Latino Health for All Coalition:

- Mini grant for soccer field improvements
- Rain sets in seats
- Grass dies from use
- YMCA potential partner

Commissioner:

- Lowest spot in the county
- Convert to “water garden”
- Convert tennis courts to futsal courts
- Mow/fix overgrown brick sidewalk

RECOMMENDATIONS:

1. Add sidewalks to connect surrounding neighborhood to park.
2. Collaborate with neighborhood to determine an appropriate use for the remnant tennis court and renovate into usable space such as futsal or pickleball courts.
3. Add picnic shelter and playground equipment.
4. Clean up vegetation along perimeter of park to improve site lines into and out of the park.
5. Re-grade southern half and make drainage improvements.

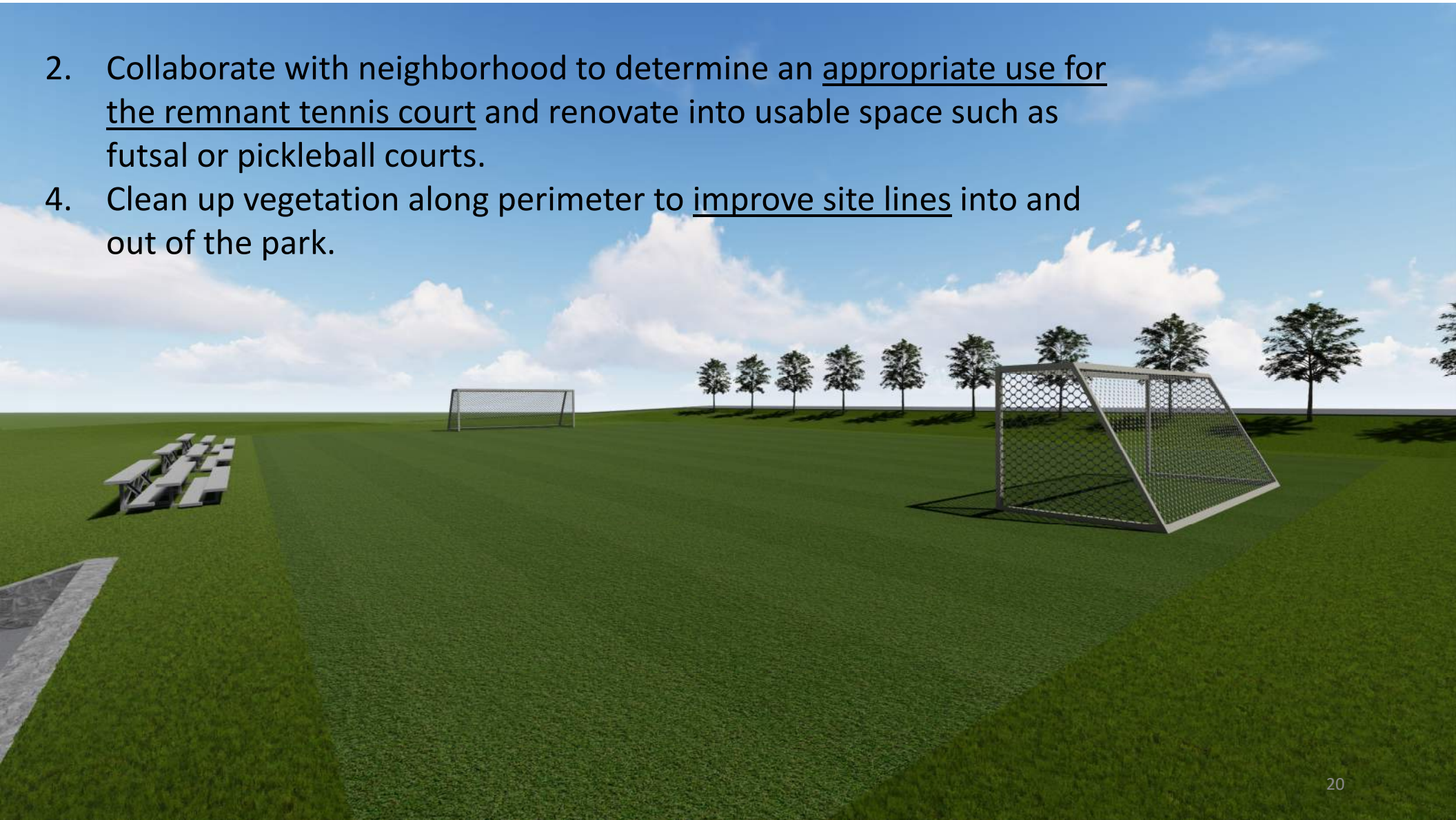
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5. Re-grade southern half and make drainage improvements.



Playground equipment - type
Parking – number of spaces

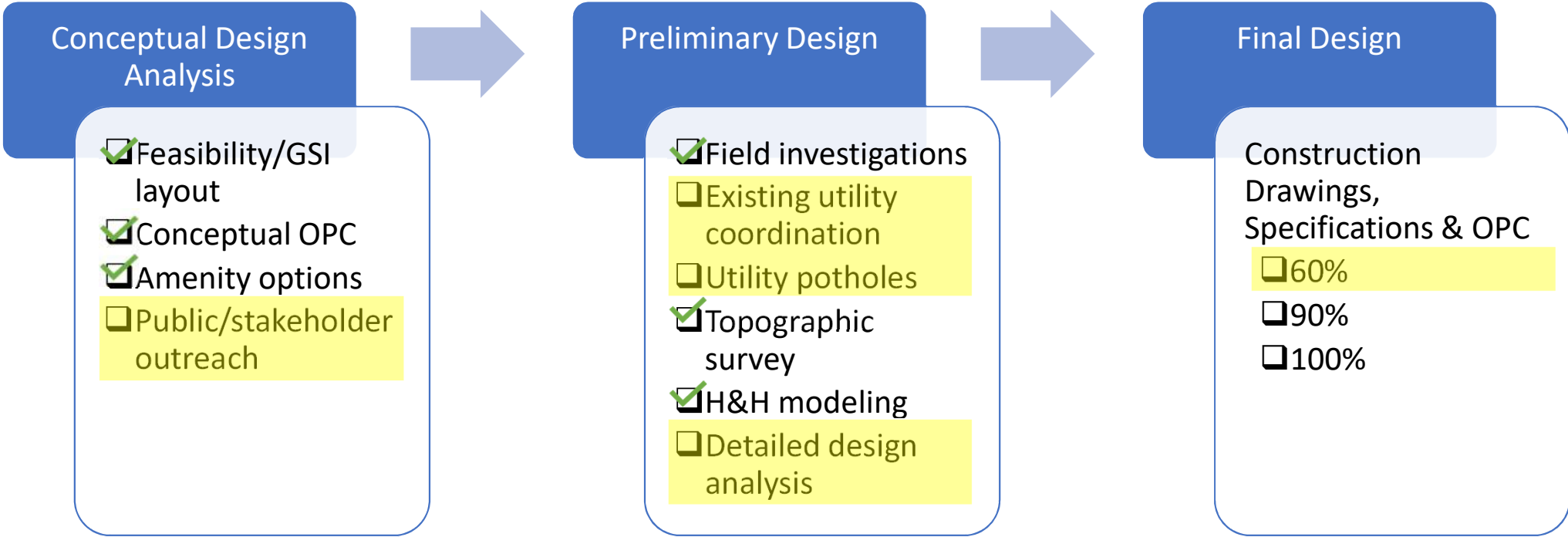
Workout equipment?
Bicycle racks?
Drinking fountains?

*Identify
amenity
options and
then take to
stakeholders*

Bench/seating options around soccer field and wet pond
Lighting?

*Identify
amenity
options and
then take to
stakeholders*

Task 900 Eight Street Park GSI – Next Steps



Stakeholder Outreach

- Parks and Recreation – District 2
 - Jeremy Rogers, Director
 - Board of Park Commissioners (every 2nd Wednesday of the month)
- Board of Commission members
- Downtown Shareholders
- Latino Health for All Coalition
- One-on-one meetings with adjoining property owners
- Key input items:
 - Maintenance plan
 - Use of land (function)
 - Amenity options – take specific items to stakeholders for input (i.e. color choices, options for plants, shelter vs playground)

Eighth Street Park

Concept without Private Property Acquisition

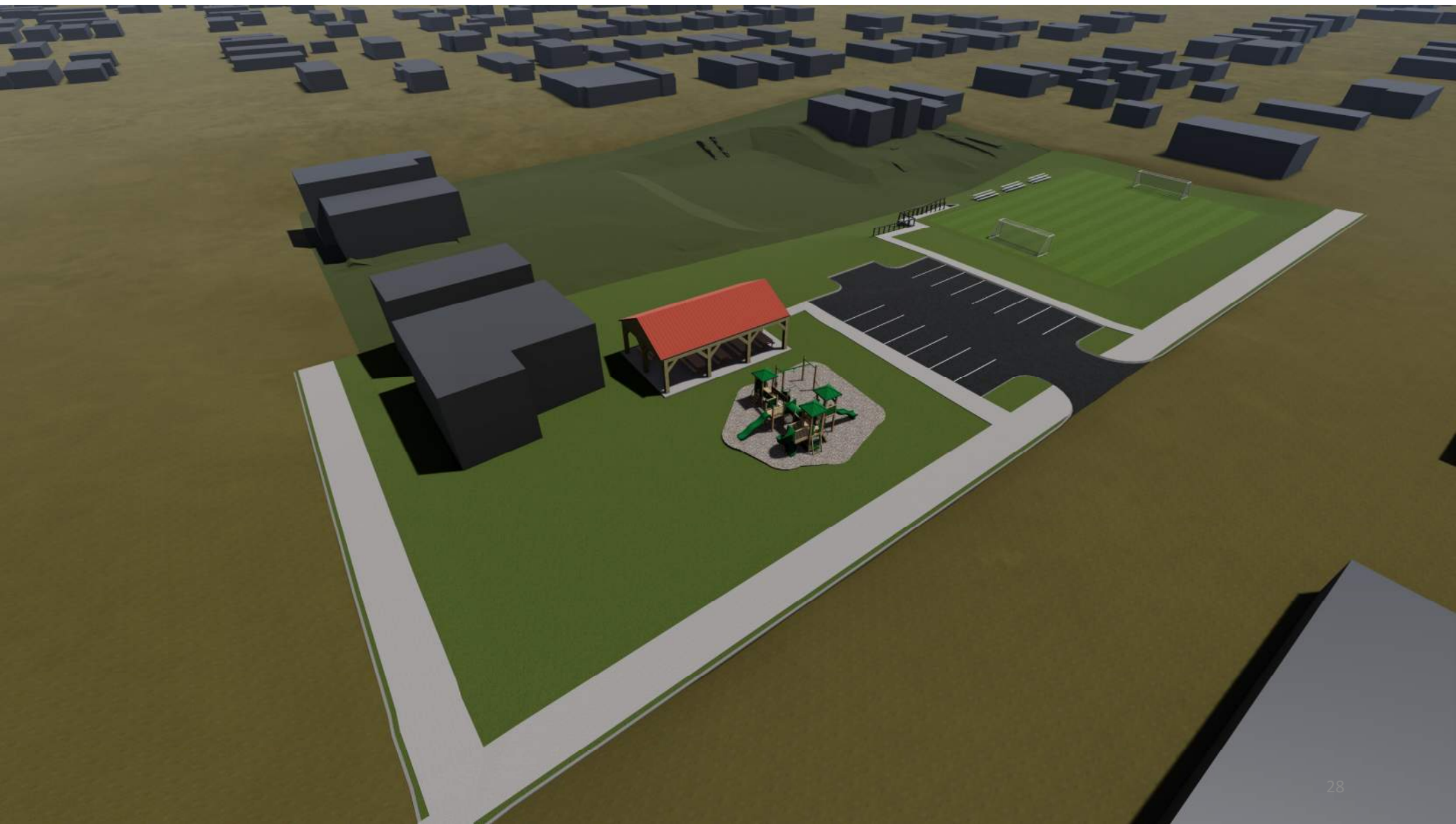
Follow-Up to Meeting on October 25, 2019

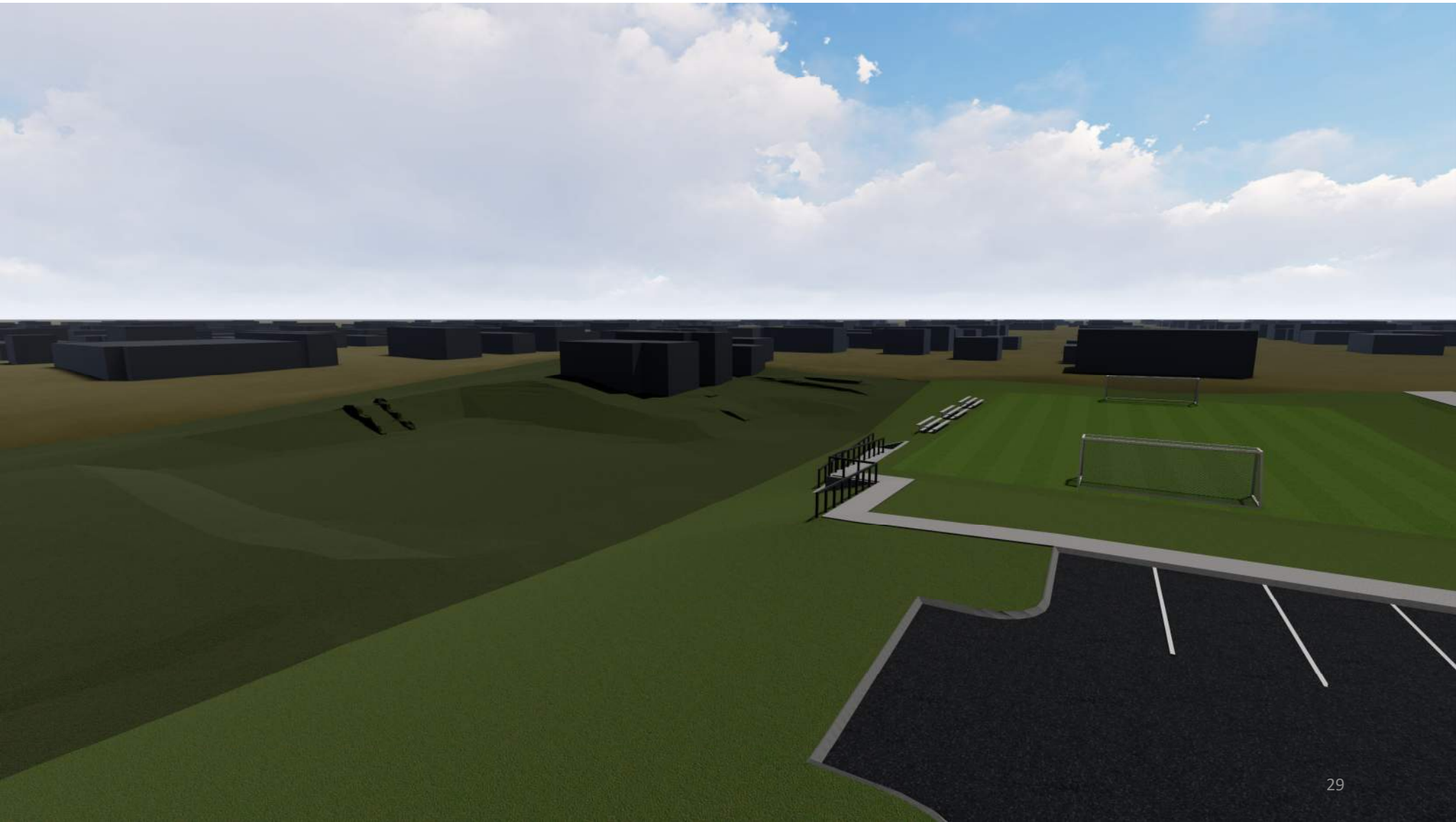
Task Series 900 – Eighth Street Park Green Stormwater Infrastructure

Considerations

- Target CSO Storm D Volume ONLY
- Cannot capture or control entire 36-acre drainage area controlled with full site concept

Parameter	Concept – Full Site (Assumes Private Property Acquisition)	Concept – Storm D Minimum (No Private Property Acquisition)
Drainage Area (ac)	36.01	25.83
Impervious Area (ac)	23.64	18.22
Storm D Volume (ac-ft)	2.80	2.16
Max. Storage Volume (ac-ft)	6.79	2.92









Cost

PHASE	DESCRIPTION	COST	\$/Total gal	\$/CSO gal	\$/Acre	\$/Imp Acre
1	Heavy Site Civil (Storm Trap)	\$2,290,000	\$2.41	\$3.25	\$88,657	\$125,686
2	Site Landscaping	\$80,000	\$0.08	\$0.11	\$3,097	\$4,391
3	Sewer Separation (Separate Storm + Opti)	\$1,520,000	\$1.60	\$2.16	\$58,846	\$83,425
SUBTOTAL (PHASE 1-3)		\$3,890,000	\$4.09	\$5.53	\$150,600	\$213,502
	Property Acquisition	\$0	\$0.00	\$0.00	\$0	\$0
4	Park Amenities	\$500,000	\$0.53	\$0.71	\$19,357	\$27,442
TOTAL (Rounded up to the nearest \$10k)		\$4,390,000	\$4.61	\$6.24	\$169,957	\$240,944

Eighth Street Park

Pre-Concept(Demonstrates Evolution of Concept Design)

Originally Presented on August 6, 2019

Task Series 900 – Eighth Street Park Green Stormwater Infrastructure

Pre-Concept Considerations

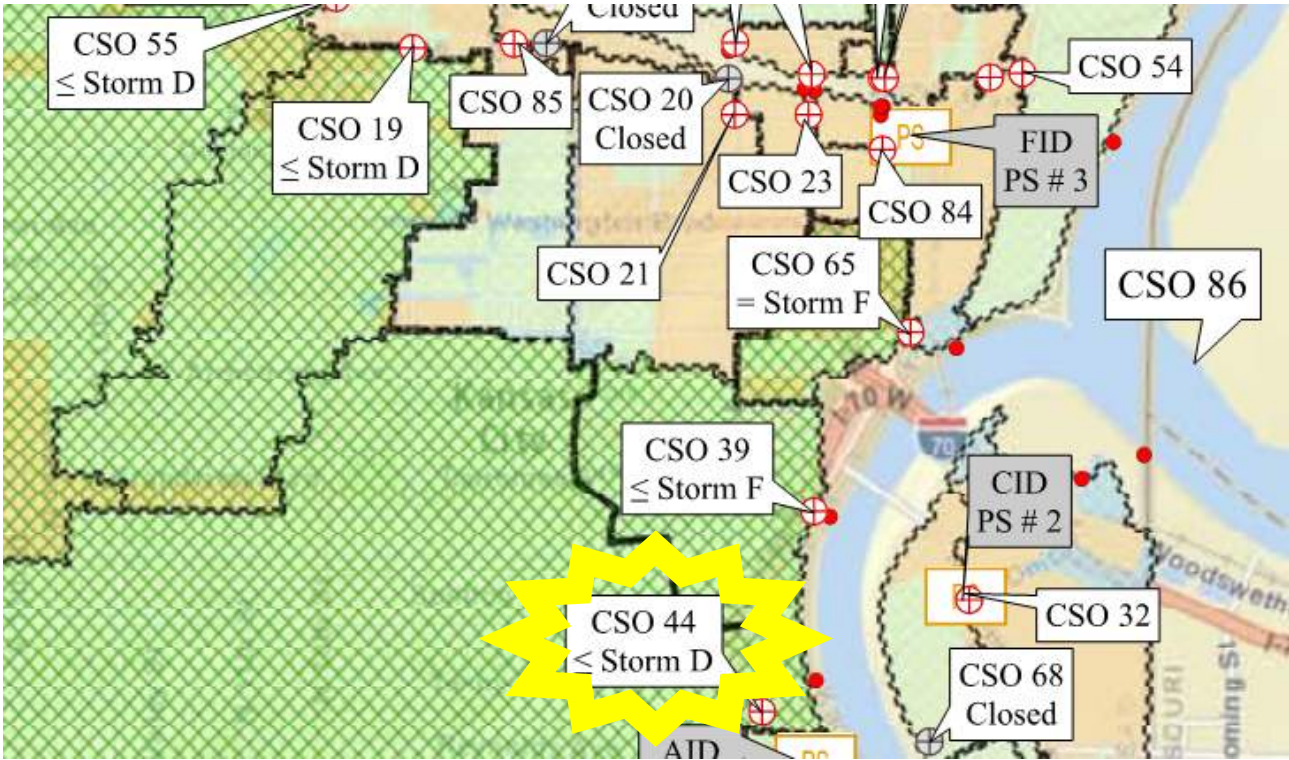
- Assumes **acquisition** of half of privately-owned vacant lot 081384 via lot-splitting
- Wet Pond (Max Storage 2.92 ac-ft)
 - Assumes 5' of ponding depth above 4-foot deep permanent pool
 - 4-foot permanent pool depth limited by invert of existing sanitary sewer line in alley
 - **Permanent pool depth not sufficient for water quality/sunlight penetration**
 - Assumes permeable pavement parking lot with underground storage for 9th Street separation and stormwater tree planters
- Bioretention/Extended Dry Detention (Max Storage 3.77 ac-ft)
 - Assumes **up to 9' of ponding** to maximize storage
 - Assume 5' of ponding depth above bioretention footprint for CSO Storm D Control
 - **Prolonged ponding on top of bioretention vegetation for CSO Storm D would likely harm plants**
 - Assumes permeable pavement parking lot with underground storage for 9th Street separation and stormwater tree planters
- Limited site access
 - Cannot meet **ADA requirement** to connect path to Ann Ave or parking lot and playground area on north portion of site
- Does not address visibility issues
 - Park is tucked in behind existing residential and business properties

Pre-Concept Next Steps (8/6/2019)

- Direction received from Pre-Concept was to evaluate site feasibility assuming property acquisition to address:
 - Excessive ponding depths
 - Increased Level of Service above Storm D
 - Park usability and visibility
 - ADA access

Overview

- Concept: Sized for Storm D
- Products
 - RediRock
 - PaveDrain
 - StormTech
 - Bioretention/Extended Detention Wetland
- Storm Separation Alignment
- Watershed Zone: Middle
- Overland Drainage Paths with Drainage Setback & Easements
- Cost-Sharing Opportunities

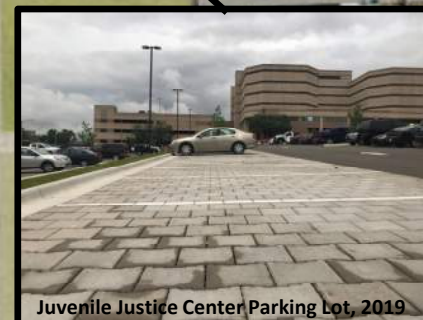




StormTech, 2019



Adams Park, Omaha, Nebraska, 2018

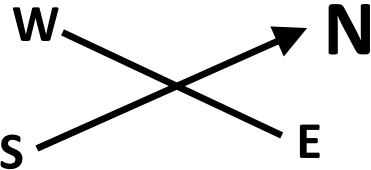
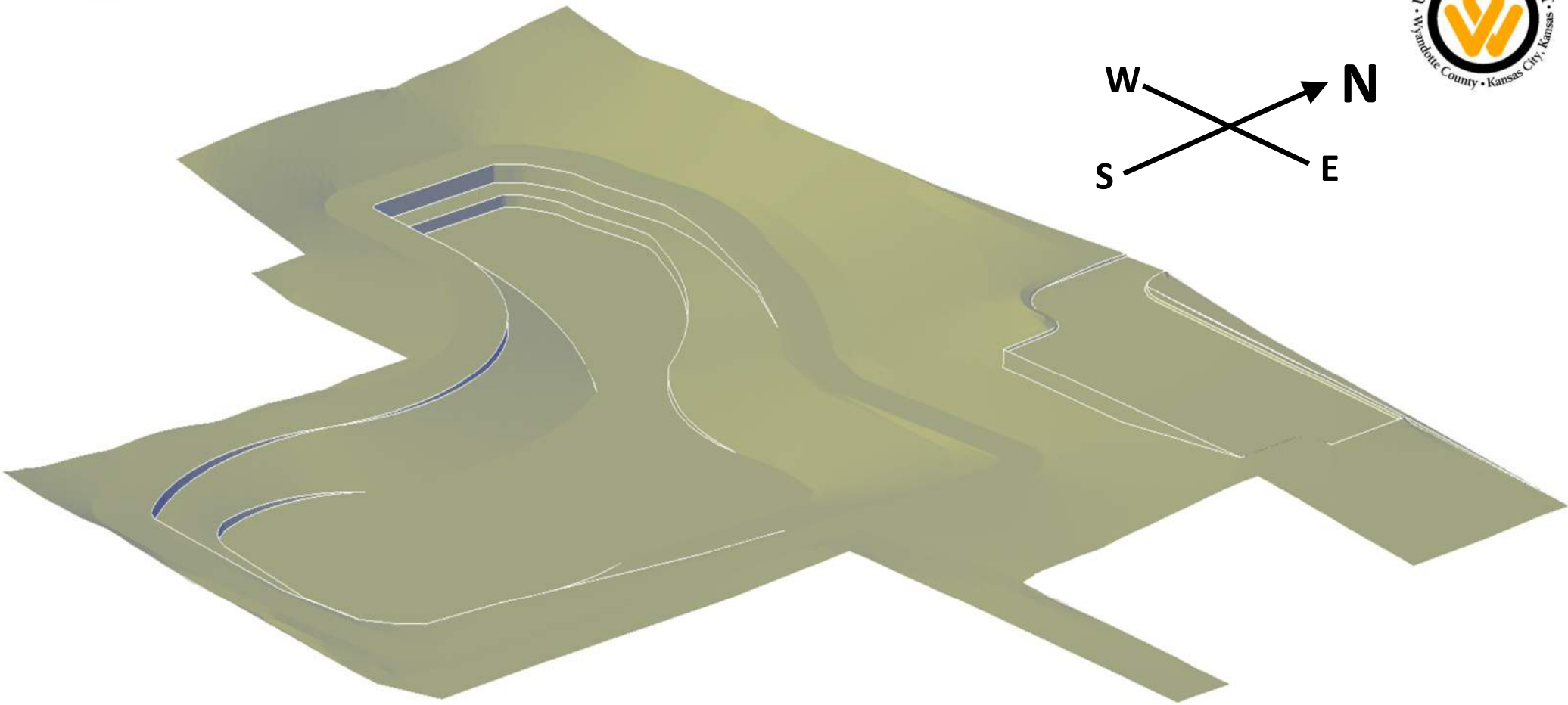


Juvenile Justice Center Parking Lot, 2019



Redi-Rock International, 2019





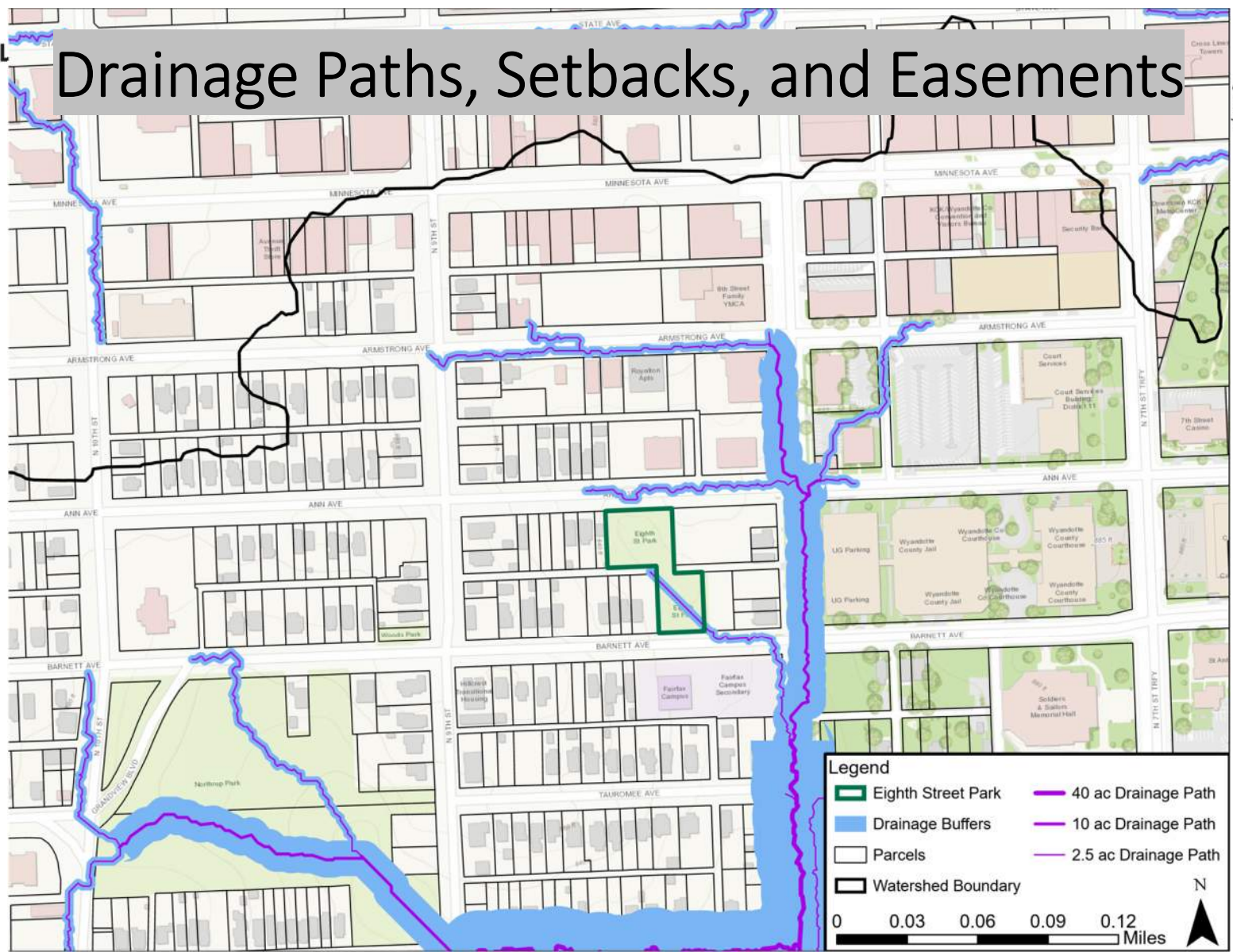
Storm Separation Alignment

- Sized to 1.6 cfs/ac (New Criteria)



Pipe Size (in)	Length (ft)
15	980
18	180
24	600
30	360

Drainage Paths, Setbacks, and Easements



Cost Considerations

- WPC-Funded
 - GSI
 - Maintenance Trail
 - Separate Storm
 - Permeable Parking
 - Underground Storage
- Park Amenities
 - Playground Equipment
- 8th Street Reconstruction from Barnett to Tauromee (Across from Parking Lot)

